

REMARKS

In the Office Action of October 8, 2002, Claims 2-6, 8, 9, 12, 14-16 and 20-38 were withdrawn from further consideration as being drawn to a non-elected species, there being no allowable generic or linking claim. The restriction requirement between Group I and Group II was withdrawn, and the restriction requirement between Species I, II and III, drawn to Figs. 7, 8 and 9, respectively, was maintained. The Office Action noted applicant's election with traverse of Species I, directed to Fig. 7, and to Claims 1, 7, 10, 11, 13 and 17-19. The Office Action noted that the traversal was on the grounds that the invention is illustrated in all of the figures, and this was not found persuasive because the restriction requirement states that Figs. 7, 8 and 9 are drawn to different species of the invention.

With reference to the Response to Restriction Requirement filed by applicants, it was noted that the invention is exemplified in all of the figures of the application, not just in Figs. 7, 8 and 9, the three figures that were identified in the restriction requirement as exemplifying Species I, II and III. Applicants specifically identified Figs. 2, 4 and 5 in addition to Figs. 7, 8 and 9. In neither the Office Action of August 6, 2002, which imposed the restriction requirement, or the present Office Action of October 8, 2002, is there any indication of why Figs. 2, 4 and 5 were not regarded as species of the invention. Moreover, the restriction requirement of August 6, 2002 indicated that "applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added." To fully respond to the Office Action, applicants made a provisional election with respect to Fig. 7, with traverse, and identified the claims that could be read upon Fig. 7. Applicants were not given the option in the Office Action imposing the restriction requirement

of electing a “species” illustrated in one of the figures other than Figs. 7, 8 or 9, for example, Fig. 2. Thus, while applicants have fully responded to the restriction requirement as imposed, applicants again submit that the restriction requirement was erroneous in identifying only Figs. 7, 8 and 9, and it is again respectfully requested that the restriction requirement be withdrawn.

In the Office Action, Claims 1 and 10 were rejected under 35 U.S.C. § 112, second paragraph. The Office Action indicated that Claim 1 recites the limitation “the incident beam” in line 10 of the claim, and that there is insufficient antecedent basis for this limitation in the claim. Claim 1 has been amended above to delete “incident” and substitute “collimated” to identify the beam referred to as the collimated beam from the collimating element on a beam path. With regard to Claim 10, it was indicated that it was unclear if the elements are on each of the two beam paths or on just one beam path. Claim 10 has been amended to specify that the cylindrical lens is positioned in the beam paths between the collimating element and the diffraction grating, and that the two beam paths pass through the collimating element to the diffraction grating, clarifying that the two beam paths extend through a single cylindrical lens and both impinge upon the diffraction grating. It is submitted that these amendments to Claims 1 and 10 should address the § 112 rejections.

Claims 1, 7, 10, 11, 13 and 19 were rejected under 35 U.S.C. § 102(b) as anticipated by the patent to Stephens, 5,386,426, and Claims 17 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stephens in view of Cates, Jr., et al., 5,860,295.

As was noted above, Claims 2-6, 8, 9, 12, 14-16 and 28-38 were withdrawn from consideration in the Office Action because of applicants’ election of Species I, drawn to Claims 1, 7, 10, 11, 13 and 17-19, but that applicants had never been given the option or opportunity to designate claims readable on Fig. 2 of the present application. The structure of

Fig. 2 may be utilized in other figures of the application. The structure of Fig. 2 includes a collimating element 13 which receives the output beam 12 from a laser 11 and provides a collimated output beam 15, a polarization rotation element 16, and a rotatable mount 17 on which the element 16 is mounted for rotation. The element 16 may be a half-wave plate, which can be used to orient the linear polarization of the light passed therethrough. By rotating the half-wave plate, the polarization of the light can be set to any desired direction, allowing the level of feedback of light to the diode to be adjusted. The polarization of the light striking the diffraction grating affects the efficiency of the diffraction grating and thereby the amount of light that is directed back by the diffraction grating to the laser diode. Excessive feedback would potentially destroy the diode (e.g., for some high power diodes, the diode would be destroyed if 30 percent or more of its power were to be fed back to it). The polarization rotation element may thus be used where the laser light that would otherwise be fed back would be excessive. By adjusting and setting the level of feedback, it is possible to obtain the maximum tunability, maximum output power, or a combination of both, depending on the particular laser application.

Independent Claims 1, 13 and 20 have been amended to specify such features. Claim 1 has been amended to include a polarization rotation element in the beam path from the collimating element to the diffraction grating, the polarization rotation element oriented such that the light on the beam path passed therethrough to the diffraction grating is oriented with respect to the diffraction grating to provide a selected efficiency of the diffraction grating and to select the amount of light directed back by the diffraction grating toward the diode laser to provide effective feedback without damaging the diode laser, wherein the polarization rotation element is mounted for rotation to allow rotation of the polarization rotation element to select

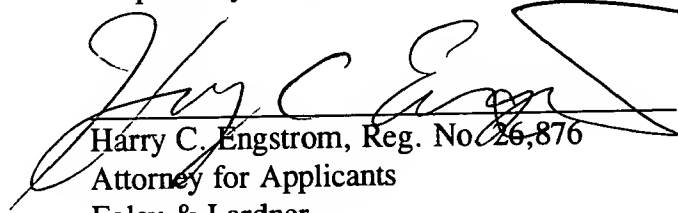
the amount of feedback to the diode laser. Claim 13 has been amended to specify selecting the amount of light directed back by the diffraction grating to the diode laser to provide effective feedback without damaging the diode laser by passing the light on the beam path through a polarization rotation element, and rotating the polarization rotation element about an axis parallel with the output beam from the collimating element to select the amount of feedback to the diode laser. Claim 20 has been amended in a manner similar to Claim 1.

It is thus believed that all of the claims as amended and the claims dependent thereon are distinguishable from Stephens and the other references of record, and provide the advantageous feature of allowing a user to selectively control the amount of feedback to maximize tunability or output power or to obtain some maximized combination of both.

The remaining claims withdrawn from consideration in the Office Action, including independent method Claim 32 and Claims 33-38 dependent thereon, have not been cancelled at this time. Because applicants had not previously had an opportunity to designate claims readable upon Fig. 2, applicants wish to retain all of the claims in the application until the scope of the restriction requirement is resolved.

The examiner is invited to contact applicants' undersigned attorney by telephone if a telephone interview would advance the prosecution of the present application.

Respectfully submitted,



Harry C. Engstrom, Reg. No. 26,876

Attorney for Applicants

Foley & Lardner

150 East Gilman Street

Post Office Box 1497

Madison, Wisconsin 53701-1497

(608) 258-4207

Fax: (608) 258-4258